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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,050	11/18/2003	Hanyang Wang	875.0128.U1(US)	4267

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EXAMINER	
AFSHAR, KAMRAN	

ART UNIT	PAPER NUMBER
2681	

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/716,050	WANG ET AL.	
	Examiner	Art Unit	
	Kamran Afshar, 571-272-7796	2681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/18/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

AV

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 are rejected under 35 U.S.C. 102(b) as being anticipated by Saitoh (U.S. Patent 6,034,636) in view of Kocznar (.S. Pub. No.: 2002/0117543 A1) further in view of Ito (U.S. Patent 6,229,485 B1) and further in view of Bacon (U.S. Patent 5317,293).

With respect to claims 1, 10, 16, 18, 20, Saitoh discloses a method of improving antenna isolation in a system or an antenna or a radio device (See e.g. planar inverted F antenna, radio device, etc., Co. 1, Lines 49-52) and / or a controller for a system (See e.g. Co. 2, Lines 64-67, Co. 3, Lines 53-55, 202 of Fig. 2), a radiating body inherently having a first end and a second end (See e.g. conductive plate 101, Co. 2, Lines 33-35 and / or radiation element, Co. 4, Lines 7-10), the second end being operable as an open end (See e.g. contact portion, end portion, Co. 2, Lines 33-40); and / or the first antenna is operable on a first frequency band and the second antenna (See e.g. Co., lines 17-23) is operable on a second frequency band such that the second antenna (See e.g. F1, F2, Co. 3, Lines 30-31) a feed point between the first end and the second end (See e.g. feed terminal 105, Co. 2, Lines 43-56); and a switch, for grounding the radiating body at a particular point between the feed point and the second end (See e.g. switch terminal 107, Co. 2, Line 57 – Co. 3, Line 3) such that the power draw caused by the antenna to other antennas (i.e. second antenna) is reduced (See e.g. lowering power consumption, Co. 3, Lines 38-42). In an analogous field of endeavor, Kocznar the switch is a detuning switch (See Kocznar e.g. short-circuited, detuned, and / or attenuated, Page 2, ¶ [0016], ¶ [0017], ¶ [0022]). Therefore, it would have

been obvious to one ordinary skill in the art at the time of the invention to provide above teaching of Kocznar to Saitoh to provide a detuning switch (See Kocznar e.g. short-circuited, detune, and / or attenuate, Page 2, ¶ [0022])) to activate and or de-active any antennas (See Kocznar i.e. first antenna, second antenna, A1, A2) and / or when the second antenna (See Kocznar i.e. A2 of Figs. 1, 3) is idle (See Kocznar e.g. Page 2, ¶ [0014]) to detune the second antenna (See Kocznar i.e. A2) and not to detune the second antenna when the second antenna is in use (See Kocznar e.g. Page 3, ¶ [0045]). The motivation comes from Ito, the switching antenna system is provided with a power supply point at a predetermined position (See Ito i.e. at a particular point) on the radiation conductor (See Ito i.e. body, element) so that the input impedance thereof is equal to the characteristic impedance of a power supply system (See Ito e.g. Co. 1, Lines 32-35). Further in an analogous field of endeavor, Bacon discloses the tuning switch comprises a low insertion loss switch in an antenna system (See Bacon e.g. Title, Co. 3, Lines 58-61). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to provide above teaching of Bacon to Saitoh in view of Kocznar and further in view of Ito to provide a low insertion loss switch in an antenna system so that the switch include isolation, insertion loss, switching speed, an RF power handling capabilities (See Bacon e.g. Co. 1, Lines 29-31).

Regarding claims 2, 11, detuning switch (See Kocznar e.g. short-circuited, detuned, and / or attenuated, Page 2, ¶ [0016], ¶ [0017], ¶ [0022]) has been configured to ground the radiating body from substantially the second end (See Saitoh e.g. switch 107, Co. 2, Lines 1-3, switch 307, Co. 4, Lines 34-47).

Regarding claims 3,12, Saitoh discloses the first end comprises a grounding point (See e.g. Co. 2, Lines 33-40).

Regarding claims 4, 13, Kocznar discloses the antenna has been configured to operate substantially as a quarter wavelength antenna when in use (See e.g. Page 1, ¶ [0012]).

Regarding claims 5, 14, Saitoh discloses the first end is open-ended when operating (See e.g. Co. 3, Lines 1-3).

Regarding claims 6, 15, Ito discloses the antenna has been configured to operate substantially as a half wavelength antenna when in use (See e.g. Page 1, ¶ [0014]).

Regarding claim 7, Saitoh discloses the antenna is a multi-band antenna (See e.g. plurality of frequency channels, frequency bands, etc. Co. 1, Lines 17-19 & Lines 49-52).

Regarding claim 8, Saitoh discloses the antenna is a Planar Inverted F-Antenna (See e.g. Co. 2, Lines 25-27).

Regarding claim 9, Bacon discloses the tuning switch comprises a low insertion loss switch See e.g. Title, Co. 3, Lines 58-61).

Regarding claim 17, the radio device is a portable radio device (See Saitoh e.g. Co. 2, Lines 1-4, Ito e.g. Co. 3, Lines 39-47, 20 of Fig. 4).

Regarding claim 19, Kocznar discloses grounding (See e.g. Page 2, ¶ [0032]) take place automatically depending (See e.g. Page 4, ¶ [0056]) on whether the isolation need to be improved and/or the antenna is needed for transmission and/or reception of radio signals (See e.g. Page 2, ¶ [0022]).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Ito et al (U.S. Pub. No.: 2002/0002037 A1), which discloses Radio communication apparatus and radio communication method.

b) Busking (U.S. Patent 5,313,218), which discloses Antenna Assembly.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kamran Afshar whose telephone number is (571) 272-7796. The examiner can be reached on Monday-Friday.

If attempts to reach the examiner by the telephone are unsuccessful, the examiner's supervisor, **Feild, Joseph** can be reached @ (571) 272-4090. The fax number for the organization where this application or proceeding is assigned is **571-273-8300** for all communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K.A

Kamran Afshar

ERIKA A. GAITH
PRIMARY EXAMINER